

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (Currently Amended) A method of designing forms of a cable clamp and cables using a three-dimensional CAD system, comprising:

- ~~a cable designating step of designating one or more cables to be clamped;~~
- ~~a cable area calculating step of calculating a cross-sectional area of each designated cable based on attribute data of each cable, and;~~
- calculating an area necessary for clamping the designated cables based on a result of the cross-sectional area calculation;
- ~~a cable clamp designating step of designating a cable clamp to be used;~~
- ~~a cable clamp checking step of comparing an inner-diameter area corresponding to an inner diameter of the cable clamp with the area necessary for clamping the cables;~~
- ~~a cable routing position for clamping designating step of designating control points assigned to a portion of each cable, which is affected by the cable clamp, wherein each control point indicates a reference position in a cable routing;~~
- ~~a cable routing position data adding step of adding data of the designated control points of each cable to data of control points of each cable which are assigned to each cable in advance to~~ provide cable routing position data; and
- ~~a cable form generating step of generating a complete cable form based on the data obtained in the cable routing position data adding step.~~

2. (Currently Amended) A method of designing forms of a cable clamp and cables using a three-dimensional CAD system, comprising:

- ~~a cable designating step of~~ designating one or more cables to be clamped;
- ~~a cable area calculating step of~~ calculating a cross-sectional area of each designated cable based on attribute data of each cable, ~~and;~~
- calculating an area necessary for clamping the designated cables based on a result of the cross-sectional area calculation;
- ~~a cable clamp selecting step of~~ selecting one or more cable clamps suitable for the area necessary for clamping the cables;
- ~~a cable clamp designating step of~~ designating a cable clamp to be used from among the selected cable clamps;
- ~~a cable routing position for clamping designating step of~~ designating control points assigned to a portion of each cable, ~~which is~~ affected by the cable clamp, where each control point indicates a reference position in a cable routing;
- ~~a cable routing position data adding step of~~ adding data of the designated control points of each cable to data of control points of each cable which are assigned to each cable in advance to provide cable routing position data; and
- ~~a cable form generating step of~~ generating a complete cable form based on the ~~data obtained in the cable routing position data adding step.~~

3. (Currently Amended) A method of designing forms of a cable clamp and cables using a three-dimensional CAD system, comprising:

- ~~a cable designating step of~~ designating one or more cables to be clamped;

~~a cable area calculating step~~ of calculating a cross-sectional area of each designated cable based on attribute data of each cable, ~~and;~~

calculating an area necessary for clamping the designated cables based on a result of the cross-sectional area calculation;

~~a cable clamp selecting step~~ of selecting one or more cable clamps suitable for the area necessary for clamping the cables;

~~a cable clamp designating step~~ of designating a cable clamp to be used from among the selected cable clamps;

~~a cable clamp model data retrieving step~~ of retrieving three-dimensional model data of the designated cable clamp which is stored in advance;

~~a cable clamp position designating step~~ of designating a desired position of the cable clamp;

~~a cable clamp position determining step~~ of determining a position of the cable clamp based on the three-dimensional model data and data of the designated desired position of the cable clamp;

~~a cable routing position for clamping designating step~~ of designating control points assigned to a portion of each cable, ~~which is~~ affected by the cable clamp, wherein each control point indicates a reference position in a cable routing;

~~a cable routing position data adding step~~ of adding data of the designated control points of each cable to data of control points of each cable which are assigned to each cable in advance to provide cable routing position data; and

~~a cable form generating step~~ of generating a complete cable form based on the ~~data obtained in the cable routing position data adding step.~~

4. (Currently Amended) A method of designing forms of a cable clamp and cables, as claimed in any one of claims 1 to 3, wherein the designated control points ~~designated in the cable routing position for clamping designating step~~ include points determined so that the cables pass perpendicularly through end faces of the cable clamp.

5. (Currently Amended) A method of designing forms of a cable clamp and cables, as claimed in any one of claims 1 to 3, wherein the designated control points ~~designated in the cable routing position for clamping designating step~~ include points determined at positions away from each end face of the cable clamp by a minimum bend radius of each cable along the direction perpendicular to each end face.

6. (Currently Amended) A computer readable storage medium storing a program for making a three-dimensional CAD system execute an operation of designing forms of a cable clamp and cables, the operation comprising:

~~a cable area calculating process of~~ calculating a cross-sectional area of each of one or more designated cables to be clamped, based on attribute data of each cable, ~~and;~~

calculating an area necessary for clamping the designated cables based on a result of the cross-sectional area calculation;

~~a cable clamp checking process of~~ comparing an inner-diameter area corresponding to an inner diameter of a designated cable clamp with the area necessary for clamping the designated cables;

~~a cable routing position data adding process of~~ adding data of designated control points assigned to a portion of each cable, ~~which is~~ affected by the cable clamp, to data of control points of

each cable which are assigned to each cable, in advance, to provide cable routing position data,

wherein each control point indicates a reference position in a cable routing; and

~~a cable form generating process of generating a complete cable form based on the data obtained in the cable routing position data adding process.~~

7. (Currently Amended) A computer readable storage medium storing a program for making a three-dimensional CAD system execute an operation of designing forms of a cable clamp and cables, the operation comprising:

~~a cable area calculating process of calculating a cross-sectional area of each of one or more designated cables to be clamped, based on attribute data of each cable, and;~~

calculating an area necessary for clamping the designated cables based on a result of the cross-sectional area calculation;

~~a cable clamp selecting process of selecting one or more cable clamps suitable for the area necessary for clamping the cables;~~

~~a cable clamp designating process of designating a cable clamp to be used from among the selected cable clamps;~~

~~a cable routing position data adding process of adding data of designated control points assigned to a portion of each cable, which is affected by the cable clamp, to data of control points of each cable which are assigned to each cable, in advance, to provide cable routing position data,~~
wherein each control point indicates a reference position in a cable routing; and

~~a cable form generating process of generating a complete cable form based on the data obtained in the cable routing position data adding process.~~

8. (Currently Amended) A computer readable storage medium storing a program for making a three-dimensional CAD system execute an operation of designing forms of a cable clamp and cables, the operation comprising:

~~a cable area calculating process of calculating a cross-sectional area of each of one or more designated cables to be clamped, based on attribute data of each cable, and;~~

calculating an area necessary for clamping the designated cables based on a result of the cross-sectional area calculation;;

~~a cable clamp selecting process of selecting one or more cable clamps suitable for the area necessary for clamping the cables;~~

~~a cable clamp designating process of designating a cable clamp to be used from among the selected cable clamps;~~

~~a cable clamp model data retrieving process of retrieving three-dimensional model data of the designated cable clamp which is stored in advance;~~

~~a cable clamp position determining process of determining a position of the cable clamp based on the three-dimensional model data and data of a designated desired position of the cable clamp;~~

~~a cable routing position data adding process of adding data of designated control points assigned to a portion of each cable, which is affected by the cable clamp, to data of control points of each cable which are assigned to each cable, in advance, to provide cable routing position data,~~
wherein each control point indicates a reference position in a cable routing; and

~~a cable form generating process of generating a complete cable form based on the data obtained in the cable routing position data adding process.~~

9. (Currently Amended) A computer readable storage medium as claimed in any one of claims 6 to 8, wherein ~~in the program~~, the designated control points include points determined so that the cables pass perpendicularly through end faces of the cable clamp.

10. (Currently Amended) A computer readable storage medium as claimed in any one of claims 6 to 8, wherein ~~in the program~~, the designated control points include points determined at positions away from each end face of the cable clamp by a minimum bend radius of each cable along the direction perpendicular to each end face.

11. (New) A method of designing forms of a cable clamp and cables, as claimed in any one of claims 2 or 3, wherein each of the one or more cable clamps suitable for the area necessary for clamping the cables is of a different cross-sectional area.

12. (New) A computer readable storage medium as claimed in any one of claims 7 or 8, wherein each of the one or more cable clamps suitable for the area necessary for clamping the cables is of a different cross-sectional area.